

**Volcanoes** ▪ *Guided Reading and Study*

## Volcanic Eruptions

*This section explains how volcanoes erupt and describes types of volcanic eruptions as well as other types of volcanic activity. The section also describes how geologists monitor volcanoes and what hazards are associated with volcanoes.*

### Use Target Reading Skills

As you preview the section headings, write what you know about the topic in the box “What You Know.” As you read the section, complete the “What You Learned” box.

What You Know
1. Lava flows out of a volcano.
2.
3.

What You Learned
1.
2.
3.

### Introduction

1. Is the following sentence true or false? Magma forms in the lithosphere.

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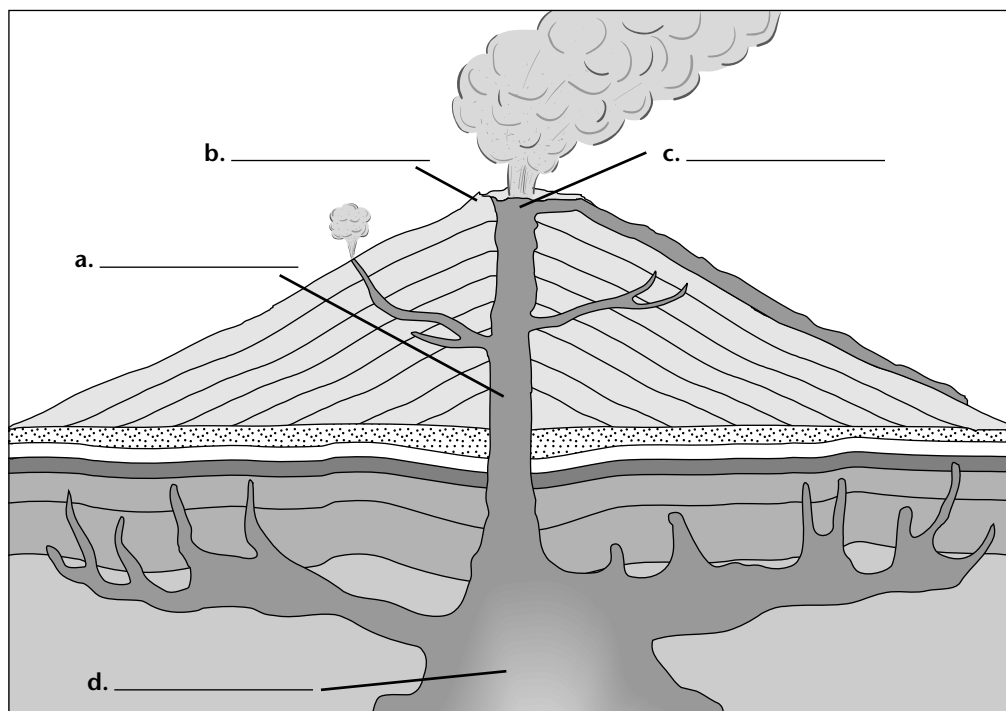
2. Is the following sentence true or false? Liquid magma rises until it reaches the surface, or until it becomes trapped beneath layers of rock.

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**Magma Reaches Earth's Surface**

3. Circle the letter of each feature that all volcanoes share.
  - a. pocket of magma beneath the surface
  - b. crack to the surface
  - c. side vents
  - d. crater
4. Label the drawing with the following terms: magma chamber, pipe, vent, and crater.

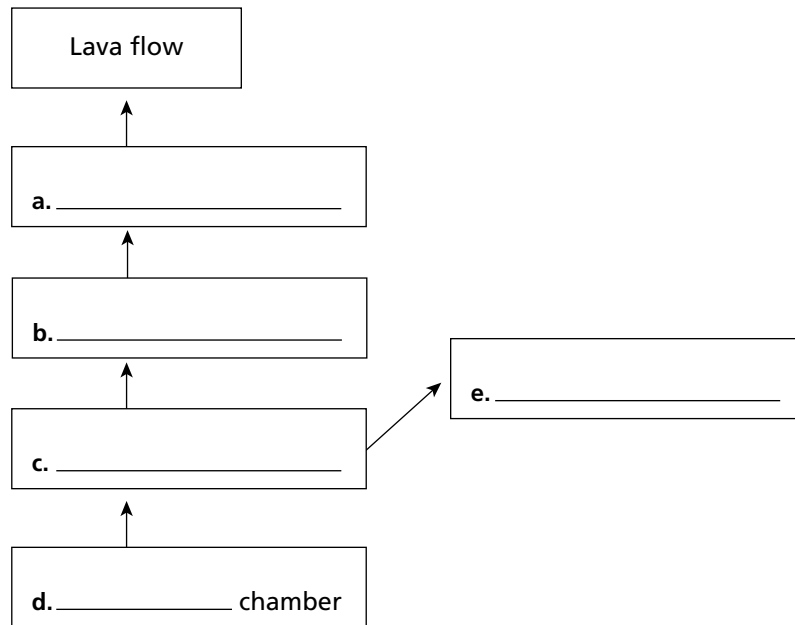


5. What is a lava flow? \_\_\_\_\_
6. Where does a crater form? \_\_\_\_\_
7. Is the following sentence true or false? The pipe of a volcano is a horizontal crack in the crust. \_\_\_\_\_

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**Volcanic Eruptions** *(continued)*

8. Complete the flowchart showing in what sequence magma moves through a volcano.



- f. What does the graph show about where magma goes after it leaves the pipes?
- \_\_\_\_\_
9. Circle the letter of the sentence that describes the best model of a volcano erupting.
- a. Carbon dioxide dissolved in soda pop rushes out when the pop is opened.
  - b. A car goes faster when the accelerator is pushed.
  - c. Water in a pot gets hotter when the pot is heated on a stove.
  - d. Clay hardens when it is baked in an oven.
10. What happens during a volcanic eruption? \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
11. What factors determine the force of a volcanic eruption?
- \_\_\_\_\_

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**Kinds of Volcanic Eruptions**

12. Is the following sentence true or false? A volcano erupts quietly if its magma is thick and sticky. \_\_\_\_\_

Match the type of lava with its description.

**Type of Lava**

\_\_\_\_\_ 13. volcanic ash

\_\_\_\_\_ 14. cinders

\_\_\_\_\_ 15. bombs

**Description**

a. Pebble-sized particles

b. Particles ranging from the size of a baseball to the size of a car

c. Fine rocky particles as small as a speck of dust

16. What is a pyroclastic flow? \_\_\_\_\_

17. Is the following sentence true or false? Volcanic eruptions cause damage only when they are close to the crater's rim. \_\_\_\_\_

18. What kinds of damage can volcanoes cause?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Stages of Volcanic Activity**

19. Is the following sentence true or false? The activity of a volcano may last from less than a decade to more than 10 million years.

\_\_\_\_\_

20. Is the following sentence true or false? Most long-lived volcanoes erupt continuously. \_\_\_\_\_

**Volcanoes** ▪ *Guided Reading and Study***Volcanic Eruptions** *(continued)*

21. Complete the compare/contrast table showing the different stages of a volcano.

Volcanic Stages	
Stage	Description
a.	Unlikely to erupt ever again
b.	Erupting or showing signs that it soon will erupt
c.	No longer active but may become active again

- d. Rank the volcanic stages from least likely to erupt to most likely to erupt: \_\_\_\_\_
22. Is the following sentence true or false? The length of time between eruptions of a dormant volcano is always less than a thousand years.  
\_\_\_\_\_
23. Why might people living near a dormant volcano be unaware of the danger? \_\_\_\_\_  
\_\_\_\_\_
24. Circle the letter of each sentence that is true about predicting volcanic eruptions.
- a. Geologists are more successful in predicting volcanic eruptions than earthquakes.
  - b. There is never any warning when a volcano will erupt.
  - c. Geologists can predict how powerful a volcanic eruption will be.
  - d. Geologists cannot predict what type of eruption a volcano will produce.